

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for preparing MTBE methyl tert-butyl ether having a purity of greater than 99.7% from technical grade MTBE methyl tert-butyl ether by fractional distillation, which comprises separating the said technical grade MTBE methyl tert-butyl ether into a low boiler fraction comprising MTBE methyl tert-butyl ether, methanol and water, a middle fraction comprising MTBE methyl tert-butyl ether in a purity of greater than 99.7% and a high boiler fraction comprising TBA tert-butyl alcohol and butene oligomers.

Claim 2 (Original): The process as claimed in claim 1, wherein the fractional distillation is carried out in at least two columns.

Claim 3 (Currently Amended): The process as claimed in claim 1 or 2, wherein the fractional distillation is carried out in at least one dividing wall column.

Claim 4 (Currently Amended): The process as claimed in any of claims 1 to 3 claim 1, wherein the fractional distillation is carried out in a two-column system which consists of a main column and a side column, and the low boiler fraction is obtained as the top product and the high boiler fraction as the bottom product of the main column and the middle fraction is purified in the side column to give the MTBE methyl tert-butyl ether having a purity of greater than 99.7%.

Claim 5 (Currently Amended): The process as claimed in claim 4, wherein the MTBE methyl tert-butyl ether having a purity of greater than 99.7% is obtained as the top product of the side column.

Claim 6 (Currently Amended): The process as claimed in claim 4, wherein the MTBE methyl tert-butyl ether having a purity of greater than 99.7% is obtained as the bottom product of the side column.

Claim 7 (Currently Amended): The process as claimed in any of claims 4 to 6 claim 4, wherein the fraction of the side column which does not ~~contain~~ comprise the MTBE methyl tert-butyl ether having a purity of greater than 99.7% is recycled into the main column.

Claim 8 (Currently Amended): The process as claimed in any of claims 1 to 7 claim 1, wherein the MTBE methyl tert-butyl ether having a purity of greater than 99.7% has a 2-methoxybutane content of less than 500 ppm by mass.

Claim 9 (Currently Amended): The process as claimed in any of claims 1 to 8 claim 1, wherein the low boiler fraction is recycled into the fractional distillation.

Claim 10 (Currently Amended): The process as claimed in any of claims 1 to 9 claim 1, wherein the high boiler fraction is recycled into the fractional distillation.

Claim 11 (Currently Amended): A process for preparing highly pure isobutene by catalytically cleaving the MTBE methyl tert-butyl ether having a purity of greater than 99.7% prepared according to any of claims 1 to 10 by the process as claimed in claim 1.